

WHAT IS CLAIMED IS:

1. A method of determining a switch sequence plan for an electrical system, said method comprising the steps of:

identifying switches for the electrical system;

organizing the identified switches within a switch group by defining a sequential group of switches to be closed together or a coincident group of switches to be closed one at a time and by defining a duration of time the switches should be closed;

organizing the switch group in a data tree structure for the switch sequence plan;

traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan;

generating an simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan; and

using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system.

2. A method as set forth in claim 1 including the step of selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system.

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3. A method as set forth in claim 1 wherein said step of organizing the switches within a switch group includes nesting sequential switch groups and coincident switch groups within a top 10 level switch group.

4. A method as set forth in claim 1 including the step of determining a duration of time between switch closings for a sequential switch 15 group.

5. A method as set forth in claim 1 wherein said step of organizing the switch group in a data tree structure includes nesting lower level 20 sequential switch groups or coincident switch groups within higher level sequential switch groups or coincident switch groups.

6. A method as set forth in claim 1 25 including the step of using the switch sequence plan

to analyze an electrical load distribution of the electrical system.

7. A method of determining a switch sequence plan for an electrical system, said method comprising the steps of:

identifying switches from a circuit schematic of the electrical system;

selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system;

organizing the identified switches within a switch group by nesting within each other a sequential group of switches to be closed together or 15 a coincident group of switches to be closed one at a time;

defining a duration of time the switches in the sequential switch group or coincident switch group should be closed;

20 organizing the switch group in a data tree structure for the switch sequence plan;

traversing the data tree structure recursively to calculate opening and closing times for the switches in the sequential switch group or 25 coincident switch group for the switch sequence plan;

generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group from the opening and closing times for the switch sequence plan; and

using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system.

10 8. A method as set forth in claim 7 including the step of determining a duration of time between switch closings for a sequential switch group.

15 9. A method as set forth in claim 7 wherein said step of organizing the switch group in a data tree structure includes nesting lower level sequential switch groups or coincident switch groups within higher level sequential switch groups or 20 coincident switch groups.

10. A method as set forth in claim 7 including the step of using the switch sequence plan to analyze an electrical load distribution of the 25 electrical system.

11. A method of determining a switch sequence plan for an electrical system, said method comprising the steps of:

identifying switches from a circuit
5 schematic of the electrical system;

selecting an individual switch or a group
of switches from a list displayed on a video terminal
of a computer system;

organizing the identified switches within a
10 top level switch group by nesting within each other a
sequential group of switches to be closed together or
a coincident group of switches to be closed one at a
time;

defining a duration of time the switches in
15 the sequential switch group or coincident switch
group within the top level switch group should be
closed;

organizing the top level switch group in a
data tree structure for the switch sequence plan by
20 nesting lower level sequential switch groups or
coincident switch groups within higher level
sequential switch groups or coincident switch groups;

traversing the data tree structure
recursively to calculate opening and closing times
25 for the switches within the sequential switch group

or coincident switch group within the top level switch group for the switch sequence plan;

generating simulation command for setting a position sequence of the switches within the 5 sequential switch group or coincident switch group within the top level switch group from the opening and closing times for the switch sequence plan; and

using the switch commands within the sequence plan to operatively control the switches in 10 a simulation of the electrical system.

12. A method as set forth in claim 11 including the step of determining a duration of time between switch closings for a sequential switch 15 group.

13. A method as set forth in claim 11 including the step of using the switch sequence plan to analyze an electrical load distribution of the 20 electrical system.